

IN THE CLAIMS:

1-29. (Cancelled)

30. (Currently Amended) A spark plug for use in an internal combustion engine, comprising:

a shell having an axial bore and an outer thread diameter (A);

an insulator having an axial bore with an interior bore diameter (E) and being at least partially located within said shell axial bore;

a center electrode being at least partially located within said insulator axial bore and having a main shank portion with a diameter (H), a first radially reduced portion having a diameter (I), and a collar section having an end face with a recess, **wherein said main shank portion and said radially reduced portion are located at a lower axial end of said spark plug;**

a noble metal tip located in said recess, and;

a ground electrode attached to said shell;

wherein:

A is about 14mm;

$2.5\text{mm} \leq E \leq 3\text{mm}$;

$2.5\text{mm} \leq H \leq 3\text{mm}$; and

$2.25\text{mm} \leq I \leq 3\text{mm}$.

31. (Original) The spark plug of claim 30, wherein said noble metal tip is comprised of Ir or an Ir-alloy.

32. (Original) The spark plug of claim 31, wherein said Ir-alloy is an Ir-Rh alloy having Rh in the amount of 1-20%.

33. (Original) The spark plug of claim 30, wherein said noble metal tip has a diameter (K), wherein $0.5\text{mm} \leq K \leq 0.9\text{mm}$.

34. (Original) The spark plug of claim 30, wherein said noble metal tip has an axial length (O), wherein $0.5\text{mm} \leq O \leq 4\text{mm}$.

35. (Original) The spark plug of claim 30, wherein said ground electrode includes a generally flat, noble metal pad for forming a spark gap with said noble metal tip sparking surface.

36. (Original) The spark plug of claim 35, wherein said noble metal tip and said noble metal pad are separated by a spark gap (U), wherein $0.5\text{mm} \leq U \leq 1.75\text{mm}$.

37. (Currently Amended) A spark plug for use in an internal combustion engine, comprising:

a shell having an axial bore and an outer thread diameter (A);

an insulator having an axial bore with an interior bore diameter (E) and being at least partially located within said shell axial bore;

a center electrode being at least partially located within said insulator axial bore and having a main shank portion with a diameter (H), a first radially reduced portion having a diameter (I), and a collar section having an end face with a recess, wherein said main shank portion and said radially reduced portion are located at a lower axial end of said spark plug;

a noble metal tip located in said recess, and;

a ground electrode attached to said shell;

wherein:

A is about 12mm;

$2\text{mm} \leq E \leq 2.5\text{mm}$;

$2\text{mm} \leq H \leq 2.5\text{mm}$; and

$1.75\text{mm} \leq I \leq 2.25\text{mm}$.

38. (Original) The spark plug of claim 37, wherein said noble metal tip is comprised of Ir or an Ir-alloy.

39. (Original) The spark plug of claim 38, wherein said Ir-alloy is an Ir-Rh alloy having Rh in the amount of 1-20%.

40. (Original) The spark plug of claim 37, wherein said noble metal tip has a diameter (K), wherein $0.5\text{mm} \leq K \leq 0.9\text{mm}$.

41. (Original) The spark plug of claim 37, wherein said noble metal tip has an axial length (O), wherein $0.5\text{mm} \leq O \leq 4\text{mm}$.

42. (Original) The spark plug of claim 37, wherein said ground electrode includes a generally flat, noble metal pad for forming a spark gap with said noble metal tip sparking surface.

43. (Original) The spark plug of claim 42, wherein said noble metal tip and said noble metal pad are separated by a spark gap (U), wherein $0.5\text{mm} \leq U \leq 1.75\text{mm}$.

44. (New) The spark plug of claim 30, wherein the collar section has a diameter (J), wherein $0.75\text{mm} \leq J \leq 1.75\text{mm}$.

45. (New) The spark plug of claim 37, wherein the collar section has a diameter (J), wherein $0.75\text{mm} \leq J \leq 1.75\text{mm}$.